UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,183	09/24/2001	Yasuhisa Shimoda	040894-5723	7146

9629 7590 12/23/2004

MORGAN LEWIS & BOCKIUS LLP
1111 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

EXAMINER	
BATTAGLIA, MICHAEL V	
ART UNIT	**PAPER NUMBER**
2652	

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/961,183	SHIMODA ET AL.
	Examiner	Art Unit
	Michael V Battaglia	2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action, dated December 14, 2004, is in response to Applicant's amendment, filed September 7, 2004. Claims 1-11 are pending.

Drawings

1. The drawings were received on September 7, 2004. These drawings are acceptable.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-5 and 7-11 rejected under 35 U.S.C. 102(e) as being anticipated by Sunagawa (US 6,442,119).

In regard to claim 1, Sunagawa discloses an information record apparatus for adjusting power of write light onto an optical information record medium (Fig. 4, element 1), the information record apparatus comprising: a light source for emitting the write light (Col. 3, line 34); a power adjustment section (Fig. 4, element 27) for adjusting the emission power of the write light; a write section (Fig. 4, element 21) for applying the write light emitted from the light source to record a record pit in the optical information record medium (Col. 3, lines 60-65); a feature extraction section for (Fig. 4, element 25 and Col. 4, line 35) optically reproducing a record state

containing the record pit from the optical information record medium in which the record pit is recorded, to produce a signal waveform, the feature extraction section extracting feature information of the record state based the signal waveform (Col. 8, lines 32-33); and a control section (Fig. 4, element 26) for controlling the power adjustment section to adjust the power of write light based on the feature information provided by the feature extraction section (Col. 4, lines 21-24), wherein the write section applies write light having a non-varying single predetermined emission power to record a record pit in the optical information medium (Figs. 1 and 7; Fig. 9, element SC6; and Col. 3, lines 60-65); the feature extraction section optically reproduces a record state containing the record pit to produce a first signal waveform (Fig. 9, element SC6 and Col. 5, lines 5-7), and extracts feature information of the record state based on the first signal waveform (Fig. 9, element SC7); and the control section controls the power adjustment section to set a plurality of write light each having a different emission power based on the feature information (Fig. 9, element SC8), then, the write section records a plurality of record pits in the optical information record medium by applying the plurality of write light (Fig. 9, element SC10 and Col. 9, lines 12-15); the feature extraction section optically reproduces a plurality of record states containing the record pits correspondingly to produce a second signal waveform, and extracts feature information of the record state for each of the record pits based on the second signal waveform (Fig. 9, element SC10 and Col. 5, lines 5-7); and the control section determines that power of write light corresponding to information closest to or almost equal to target feature information, of the feature information of the record state for each of the record pits is appropriate write light power (Fig. 9, element SC11 and Col. 9, lines 24-26), and controls the power adjustment section to adjust the emission power of the write light (Fig. 9, element SC12). It is noted that Sunagawa records information on the optical information recording medium through the

application of a non-varying single predetermined emission power (Figs. 1 and 7 and Col. 3, lines 60-65). Even though the emission (recording) power is varied from frame to frame in the first OPC (Fig. 9, element SC6) of Sunagawa (Col. 5, lines 8-16), each recording pit of the test information of each frame in the first OPC is recorded by the application of a non-varying single predetermined emission power. As a result, any one of the recording pits making up the test information in the 15 frames recorded in first OPC of Sunagawa is interpreted as the claimed recording pit. The recording state containing the recording bit interpreted as such is reproduced to produce a first signal waveform from which the feature information is extracted (Col. 5, lines 5-7 and Col. 9, lines 1-8).

In regard to claim 3, Sunagawa discloses that the predetermined power of the write light is set based on characteristic information recorded on the optical information record medium in advance (Col. 8, lines 44-48).

In regard to claim 4, Sunagawa discloses that the control section sets the plurality of write light based on a difference between the feature information and the target feature information (Col. 5, lines 33-39).

In regard to claim 5, Sunagawa discloses the feature information and the target feature information are β values (Col. 5, lines 35-39 and Col. 8, line 15).

In regard to claim 7, Sunagawa discloses that the feature information and the target feature information are β values (Col. 5, lines 35-39 and Col. 8, line 15). Beta values are well known in the art as providing an indication of modulation depth that is used to determine suitable optical recording power levels (see Citation of Relevant Prior Art below). Therefore, Sunagawa anticipates the use of modulation depth as feature information and target feature information.

In regard to claim 8, Sunagawa discloses that the optical information record is CD-R (Col. 3, line 10).

In regard to claim 9, Sunagawa discloses that the write section records in a count area provided in the CD-R by applying write light of fixed power and records a plurality of record pits in a test area of the CD-R by applying a plurality of write light each different in power (Col. 5, lines 5-25).

In regard to claim 10, Sunagawa discloses an information record method (Fig. 9) for adjusting power of write light onto an optical information medium, the information record method comprising the steps of: applying a write light having a non-varying single predetermined emission power emitted from a light source to record a record pit in the optical information record medium (Figs. 1 and 7; Fig. 9, element SC6; and Col. 3, lines 60-65); optically reproducing a record state containing the record pit to produce a first signal waveform (Fig. 9, element SC6 and Col. 5, lines 5-7); extracting feature information of the record state based on the first signal waveform (Fig. 9, element SC7 and Col. 9, lines 1-2); setting a plurality of write light each having a different emission power based on the feature information (Fig. 9, element SC8 and Col. 9, lines 3-8), applying the plurality of write light to record a plurality of record pits in the optical information record medium (Fig. 9, element SC10; Col. 8, lines 34-36; and Col. 9, lines 12-15); optically reproducing a plurality of record states containing the record pits to produce a second signal waveform (Fig. 9, element SC10 and Col. 5, lines 5-7); extracting feature information of the record state for each of the record pits based on the second signal waveform (Fig. 9, element SC11 and Col. 8, lines 37-39); determining that power of write light corresponding to information closest to or almost equal to target feature information, of the feature information of the record state for each of the record pits is appropriate write light power (Fig. 9, element SC11 and Col. 5, lines 33-39); and adjusting the

power of the write light (Fig. 9, element SC12 and Col. 9, lines 24-29). It is noted that Sunagawa records information on the optical information recording medium through the application of a non-varying single predetermined emission power (Figs. 1 and 7 and Col. 3, lines 60-65). Even though the emission (recording) power is varied from frame to frame in the first OPC (Fig. 9, element SC6) of Sunagawa (Col. 5, lines 8-16), each recording pit of the test information of each frame in the first OPC is recorded by the application of a non-varying single predetermined emission power. As a result, any one of the recording pits making up the test information in the 15 frames recorded in first OPC of Sunagawa is interpreted as the claimed recording pit. The recording state containing the recording bit interpreted as such is reproduced to produce a first signal waveform from which the feature information is extracted (Col. 5, lines 5-7 and Col. 9, lines 1-8).

In regard to claim 11, Sunagawa discloses an information record medium recording a control information program to be executed in a computer, the control information program comprising: applying write light having a non-varying single predetermined emission power emitted from a light source to record a record pit in the optical information record medium (Figs. 1 and 7; Fig. 9, element SC6; and Col. 3, lines 60-65); optically reproducing a record state containing the record pit to produce a first signal waveform (Fig. 9, element SC6 and Col. 5, lines 5-7); extracting feature information of the record state based on the first signal waveform (Fig. 9, element SC7 and Col. 9, lines 1-2); setting a plurality of write light each having a different emission power based on the feature information (Fig. 9, element SC8 and Col. 9, lines 3-8), applying plurality of write light to record a plurality of record pits in the optical information record medium (Fig. 9, element SC10; Col. 8, lines 34-36; and Col. 9, lines 12-15); optically reproducing a plurality of record states containing the record pits to produce a second signal waveform (Fig. 9, element SC10 and Col. 5,

lines 5-7); extracting the feature information of the record state for each of the record pits based on the second signal waveform (Fig. 9, element SC11 and Col. 8, lines 37-39); determining that power of write light corresponding to information closest to or almost equal to target feature information, of the feature information of the record state for each of the record pits is appropriate write light power (Fig. 9, element SC11 and Col. 5, lines 33-39); and adjusting the power of the write light (Fig. 9, element SC12 and Col. 9, lines 24-29). It is noted that the control information program of Sunagawa is inherently recorded on an information recording medium. The examiner further notes that even if the control information program is implemented in hardware, the examiner interprets the circuit board or semiconductor chip as an information recording medium on which a function or program is recorded. It is further noted that Sunagawa records information on the optical information recording medium through the application of a non-varying single predetermined emission power (Figs. 1 and 7 and Col. 3, lines 60-65). Even though the emission (recording) power is varied from frame to frame in the first OPC (Fig. 9, element SC6) of Sunagawa (Col. 5, lines 8-16), each recording pit of the test information of each frame in the first OPC is recorded by the application of a non-varying single predetermined emission power. As a result, any one of the recording pits making up the test information in the 15 frames recorded in first OPC of Sunagawa is interpreted as the claimed recording pit. The recording state containing the recording bit interpreted as such is reproduced to produce a first signal waveform from which the feature information is extracted (Col. 5, lines 5-7 and Col. 9, lines 1-8).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunagawa in view of Honda et al (hereafter Honda) (US 5,559,785).

In regard to claim 2, Sunagawa discloses that the write section records a plurality of sets of record pits in the optical information record medium; the feature extraction section extracts the feature information of the record state for each of the record pits in the plurality sets based on a signal waveform provided by optically reproducing the record states containing the plurality sets of the recorded record pits; and the control section finds feature information of the record state for each of the record pits in the plurality sets, determines that power of write light corresponding to information closest to or almost equal to target feature information, of the feature information is appropriate write light power, and controls the power adjustment section to adjust the emission power of the write light. Sunagawa does not disclose that the feature information found by the control section is average feature information.

Honda et al (hereafter Honda) discloses a feature extraction section that extracts the feature information of the record state for each of the record pits in the plurality sets based on a signal waveform provided by optically reproducing the record states containing the plurality sets of the recorded record pits (Fig. 1, even-numbered elements 58-66) and a control section that finds average feature information of the record state for each of the record pits in the plurality sets and determines that power of write light corresponding to information closest to or almost equal to target feature information, of the average feature information is appropriate write light power (Fig.

1, even-numbered elements 68-74 and Col. 7, lines 53-60). The examiner notes that by averaging the feature information, irregularities are filtered out.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to for the control section of Sunagawa to use average feature information as suggested by Honda, the motivation being to filter out irregularities in the feature information provided by the feature extraction section.

In regard to claim 6, Sunagawa discloses an information record apparatus as claimed in claim 1 wherein the feature information and the target feature information are β values of the first or second signal waveform provided by optically reproducing (Col. 5, lines 5-8 and 35-39 and Col. 8, line 15). Sunagawa does not disclose how the β is calculated or that the β values are values of asymmetry.

Honda discloses calculating β as an asymmetry value and teaches that by doing so and comparing measured asymmetry values to an optimum or target asymmetry value, an optimum recording power level is found (Fig. 1 and Col. 7, lines 49-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calculate β of Sunagawa as an asymmetry value as suggested by Honda, the motivation being to calculate β in a known manner that will lead to the finding of an optimum recording power.

Citation of Relevant Prior Art

4. Gage et al (US 5,537,383) teaches that beta measurements are well-known in the art and provide an indication of data signal modulation depth which is used to determine a suitable optical recording power level (Col. 12, lines 31-35).

Response to Arguments

Applicant's arguments filed September 7, 2004 have been fully considered but they are not persuasive. Applicant argues that Sunagawa does not disclose applying a non-varying single predetermined emission power to record a record pit on the optical information record medium and that Sunagawa instead uses 15 different of emission powers. However, the information record apparatus, method and medium of Sunagawa read on independent claims 1, 10 and 11 as specified in the claim rejections above. It is noted that Sunagawa records information on the optical information recording medium through the application of a non-varying single predetermined emission power (Figs. 1 and 7 and Col. 3, lines 60-65). Even though the emission (recording) power is varied from frame to frame in the first OPC (Fig. 9, element SC6) of Sunagawa (Col. 5, lines 8-16), each recording pit of the test information of each frame in the first OPC is recorded by the application of a non-varying single predetermined emission power. As a result, any one of the recording pits making up the test information in the 15 frames recorded in first OPC of Sunagawa is interpreted as the claimed recording pit. The recording state containing the recording bit interpreted as such is reproduced to produce a first signal waveform from which the feature information is extracted (Col. 5, lines 5-7 and Col. 9, lines 1-8). It is further noted that the claims do not require only one record pit be written by the write section, all record pits be written with the same non-varying single predetermined emission power, the first signal waveform

be produced from reproduction of only the record pit written with the non-varying single predetermined emission power, or the non-varying single predetermined power be applied to determine a single feature information. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Battaglia

Michael Battaglia

BRIAN E. MILLER
PRIMARY EXAMINER